

AMENDMENTS TO CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A method for separating a mixture of fluids into at least two phases, one of which has a higher density than the other, which method comprises:
 - passing the mixture through a normally horizontal supply pipe with a feed inlet at its upstream end and an outlet at its downstream end;
 - subsequently, passing the mixture through an inclined pipe having an inlet at its upper end that is connected to the outlet of the supply pipe, whilst maintaining a stratified flow in the inclined pipe so that the phase of fluid of lower density ("lighter phase") is above the phase of fluid of higher density ("heavier phase");
 - extracting fluid with the lower density via a first discharge system having an inlet that is located such that is in fluid communication with the lighter phase;
 - extracting fluid of higher density via a second discharge system located at the inclined pipe and having an inlet that is in fluid communication with the heavier phase;and
wherein the interface between the lighter phase and the heavier phase is monitored in the inclined pipe by a level controller means that varies the flow of the fluid of higher density to keep the interface between set levels;
wherein the fluid of higher density is extracted via a further discharge system having a second outlet that is in fluid communication with the heavier phase;
. wherein the second outlet is arranged in the bottom of the horizontal supply pipe.
2. (Previously Presented) The method of claim 1, wherein the level controller means comprises a level monitor and a valve at the first and/or second discharge system.
3. (Previously Presented) The method of claim 1, wherein the supply pipe is the same as the pipeline conduit through which the mixture to be separated is fed.
4. (Canceled)

5. (Canceled)

6. (Previously Presented) The method of claim 1, wherein the pressure of the lighter phase in the first discharge system is monitored, and the flow of fluid of lower density is adjusted in accordance with the pressure measured.

7. (Previously Presented) The method of claim 1, wherein the lighter phase comprises oil, and the heavier phase comprises water.

8. (Currently Amended) The method of claim 1, wherein three phases are separated into a phase of fluid of lower density ("lighter phase"), ~~a phase with fluid of intermediate density ("intermediate phase")~~ and a phase with fluid of higher density ("heavier phase"), and a phase with fluid of intermediate density ("intermediate phase").

9. (Currently Amended) The method of claim ~~8~~⁴, wherein the lighter phase comprises gas, the intermediate phase comprises oil and the heavier phase comprises water.

10. (Currently Amended) The method of claim ~~8~~⁴, wherein the lighter phase and the intermediate phase are withdrawn via the inlet of the first discharge system.

11. (Currently Amended) The method of claim ~~8~~⁴, wherein the withdrawn phases are passed to a riser section to allow the lighter phase and the intermediate phase to separate.

12. (Currently Amended) The method of claim ~~8~~⁴, wherein the lighter phase is withdrawn from the riser section at the upper level of the riser section, and the intermediate phase is withdrawn from the riser section at the lower level of the riser section.

13. (Currently Amended) The method of claim 8~~4~~, wherein the riser section comprises two vessels.
14. (Currently Amended) The method of claim 8~~4~~, wherein the interface between the lighter phase and the intermediate phase is monitored by a second level controller means that adjusts the flow of the fluid of lower density to keep the interface between set levels.
15. (Currently Amended) The method of claim 8~~4~~, wherein the second level controller means communicates with valves that control the flow of the fluid of lower density or the flow of the fluid of intermediate density or both flows.
16. (Currently Amended) The method of claim 8~~4~~, wherein the pressure in the riser section is monitored and the flow of the fluid of lower density, or the flow of fluid of intermediate density or both flows are adjusted in accordance with the pressure measured.
17. (Currently Amended) A device for separating a mixture of fluids into at least two phases, one of which has a higher density than the other, so that a phase of fluid of lower density ("lighter phase") and a phase of fluid of higher density ("heavier phase") are obtained, which device comprises:
- a normally horizontal supply pipe with a feed inlet at its upstream end and an outlet at its downstream end;
 - an inclined pipe having an inlet at its upper end that is connected to the outlet of the supply pipe;
 - a first discharge system having an inlet that is located such that is in fluid communication with the lighter phase; ~~and~~
 - a second discharge system located at the inclined pipe and having an inlet that is in fluid communication with the heavier phase,
- wherein the inclined pipe is provided with a level controller means comprising a level monitor and a valve at the first and/or second discharge system and;

a further discharge system having a second outlet that is in fluid communication with the heavier phase; wherein the second outlet is arranged in the bottom of the horizontal supply pipe.

18. (Canceled)

19. (Canceled)

20. (Currently Amended) The device of claim 17, wherein the first discharge system is provided with a pressure monitor that communicates with a flow control valve located in the first discharge system.

21. (Currently Amended) The device of claim 17, wherein the first discharge system comprises a riser section to allow the lighter phase and a phase with fluid of intermediate density ("intermediate phase") with a density higher than the density of the lighter phase but lower than the density of the heavier phase to separate, which riser section has an outlet for the lighter phase in the upper part and an outlet for the intermediate phase in the lower part.

22. (Currently Amended) The device of claim 21~~17~~, wherein the riser section comprises two vessels.

23. (Currently Amended) The device of claim 21~~17~~, wherein the riser section has been provided with a second level controller means that adjusts the flow of the fluid of lower density to keep the interface between set levels.

24. (Currently Amended) The device of claim 21~~17~~, wherein the second level controller means communicates with one or more valves at the respective discharge systems, which valve(s) control(s) the flow of the fluid of lower density or the flow of the fluid of intermediate density or both flows.

25. (Currently Amended) The device of claim 21~~47~~, wherein the riser section is provided with a pressure monitor that communicates with one or more flow control valves for control of the flow of the fluid of lower density, or the flow of fluid of intermediate density or both flows.